REMARKS

Summary of Office Action

Claims 1-7 are pending.

Claims 1-7 have been rejected under 35 U.S.C. 102(b) as being anticipated by Adamain U.S. Patent No. 5,578,932 ("Adamain").

Applicant's Reply

Applicant respectfully traverses the prior art rejection

As previously noted, applicant's invention is directed to methods for calibration of a vectorial network analyzer ("VNA") having n measurement ports and at least 2n measurement locations (n>1). The calibration measurements are carried out successively on one port (i.e., the "n-one port"), which is terminated with a reflection standard. The "n-one port" is a special one-port in the n-port VNA which takes into consideration the remaining n-1 ports of the n-port. For this purpose, all the n ports, the measurement port (i.e. the n-one port) and the n-1 remaining ports, are terminated with n reflection standards.

Accordingly. claims 1 and 2 call for measurements with "n" standards for the realization of the n-one-port. Claims 1 and 2, in particular, recite that these n standards are variously known or unknown..

For example, claim elements 1(b) and 2(b) require "a further calibration measurement . . . carried out at an n-fold one-port (n-one-port), which is realized by means of n-known wave terminations (M = Match), wherein the n-known wave terminations have unrestricted values so that they can be different from each other." Further, for example, claim elements 2(c) and 2(d) require " carrying out a further calibration measurement at an n-one-port, which is realized by means of n-unknown greatly reflective terminations." Simi alary claim

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PAGE 8/10 * RCVD AT 4/17/2006 3:43:14 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-5/19 * DNIS:2738300 * CSID: * DURATION (mm-ss):02-54

claims elements 1(d) and 21(d) require "carrying out a further calibration measurement at an n-one-port, which is realized by means of n-unknown greatly reflective terminations."

By applicant's claimed methods, the VNA calibration is advantageously accomplished with "unknown" reflections standards or terminations. The claimed methods involve self-calibration of the reflection standards or terminations. The values for the reflection standards are mathematically determined in the calibration process itself. The measurements at the special "n-one-port" account for the effects of all the ports in the system.

In contrast to applicants claimed calibration methods, Adamain's VNA calibration procedure involves "known" reflection standards or terminations. (See e.g., instant specification, Background of the Invention, page 4 line 10, and Adamain col. 7 lines 7-10, etc.). Adamain connects the fixed known calibration standards to two ports for each measurement via semiconductor switches. Adamain does not describe the use of a special "n-one-port." Adamain's measurement procedure fails to account for the effect of the remaining ports. Adamain also describes a prior art an error- correction model which is used to model the systemic errors in a conventional VNA setup. This also involves the use of a number of "known primary standards." (See e.g., Adamain col. 10 line 55 - col. 11 line 2).
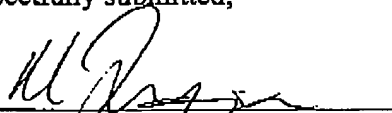
Applicants respectfully submit that at least the elements of the claims 1 and 2 that call for "unknown" terminations or standards are not shown, taught or suggested by Adamain. Accordingly claims 1 and 2, and their dependent claims 2-7, are patentable over Adamain.

Conclusion

Applicant respectfully submits that this application is now in condition for allowance. Reconsideration and prompt allowance of which are requested.

If there are any remaining issues to be resolved, applicants respectfully request that the Examiner should kindly contact the undersigned attorney for a telephone interview.

Respectfully submitted,

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